

IN THE CLAIMS

Claims 14-24 (Group II) have previously been cancelled without prejudice as being drawn to a non-elected distinct invention under 35 U.S.C. § 121.

Please amend claims 1-10 and 25.

Please enter the pending claims, including claims 1-13 and 25-27 (Group I), as follows:

1. (Currently Amended) A system comprising:

a first interference apparatus to form ~~an interference~~ a pattern of alternating lines and spaces on a photoresist, the lines being continuous and having a first width and remaining unexposed to radiation, the spaces being exposed to radiation, the first apparatus comprising: a radiation source with a pre-determined exposure wavelength, a collimated and expanded laser beam, a light-splitting element, and interfering beams; and

a second maskless patterning apparatus to expose selected areas of the photoresist, the selected areas to preserve the first width, narrow the first width, or break a continuity of portions of the lines; and

an indirect alignment apparatus to align the selected areas exposed by the second maskless patterning apparatus to a previous layer pattern instead of with the

lines and spaces in the ~~interference~~ pattern formed by the first interference apparatus.

2. (Currently Amended) The system of claim 1, wherein a second width of a feature formed by the second maskless patterning apparatus is equal to the first width of a line of the ~~interference~~ pattern of alternating lines and spaces.
3. (Currently Amended) The system of claim 1, wherein a second width of a feature formed by the second maskless patterning apparatus is less than the first width of a line of the ~~interference~~ pattern of alternating lines and spaces.
4. (Currently Amended) The system of claim 1, wherein the second maskless patterning apparatus uses optical proximity correction (OPC) ~~on a mask~~ to adjust feature widths.
5. (Currently Amended) The system of claim 1, wherein the first interference apparatus comprises a beamsplitter.
6. (Currently Amended) The system of claim 1, wherein the first interference apparatus comprises a diffraction grating.

7. (Currently Amended) The system of claim 1, wherein the second maskless patterning apparatus comprises a ~~mask-based~~ an optical lithography tool.

8. (Currently Amended) The system of claim 1, wherein the second maskless patterning apparatus comprises an electron beam lithography tool.

9. (Currently Amended) The system of claim 1, wherein the second maskless patterning apparatus comprises a ~~maskless~~ lithography tool with a database.

10. (Currently Amended) A method comprising:

forming an interference pattern of alternating non-exposed lines and exposed spaces on a photoresist, the lines being continuous and having a first width;

aligning features indirectly to a previous layer pattern instead of to the alternating lines and spaces; and

exposing a portion of at least one line without a mask to radiation to form the features with a second width, the second width being less than the first width.

11. (Original) The method of claim 10, wherein a pitch of the features is greater than one and a half times a pitch of the interference pattern.

12. (Original) The method of claim 10, wherein the radiation has a pre-determined wavelength, the interference pattern approaching a pitch equal to the wavelength divided by two.

13. (Original) The method of claim 10, further comprising generating a print mask from Boolean subtraction of (a) a final design layout for a given layer from (b) the interference pattern.

14.-24. (Cancelled)

25. (Currently Amended) A method comprising:

using a first lithography process to expose an interference pattern of alternating non-exposed lines and exposed spaces on a photoresist with a first exposure having a first pitch;

aligning indirectly to a previous layer pattern instead of with the interference pattern of alternating lines and spaces; and

using a second maskless lithography process to trim and narrow a width of at least some of the non-exposed lines by exposing portions of the non-exposed lines with a second exposure having a second pitch, wherein the second pitch is different from the first pitch.

26. (Previously Presented) The method of claim 25, wherein the second pitch is at least one and a half times the first pitch.

27. (Previously Presented) The method of claim 25, wherein using the second lithography process comprises using a lens-based lithography process.